

Amendments to the Claims:

The claims are not amended in this response. For convenience, the claims are reproduced as follows:

1 1. (original) An electronic pressure sensitive transducer producing an
2 electrical signal indicative of applied pressure, the transducer comprising:
3 a printed circuit board accepting a plurality of electronic elements for
4 processing the transducer electrical signal;
5 a plurality of conductive traces formed on the printed circuit board to
6 define a contact area;
7 a flexible substrate having an inner surface positioned over the contact
8 area;
9 an adhesive spacer substantially surrounding the contact area, the
10 adhesive spacer attaching the flexible substrate to the printed circuit board; and
11 at least one resistive layer deposited on the flexible substrate inner
12 surface, the resistive layer contacting at least two of the traces in response to pressure
13 applied to the flexible substrate to produce the electrical signal indicative of applied
14 pressure.

1 2. (original) An electronic pressure sensitive transducer as in claim
2 1 wherein at least one resistive layer comprises resistive ink.

1 3. (original) An electronic pressure sensitive transducer as in claim
2 1 further comprising a pedestal formed on the printed circuit board substantially
3 around the contact area, the pedestal receiving the adhesive spacer.

2 5 wherein the pedestal comprises conductive traces covered with a non conductive
3 material.

1 5. (original) An electronic pressure sensitive transducer as in claim
2 1 wherein the plurality of conductive traces comprise:
3 a plurality of sets of traces, each set of traces interconnected within a
4 zone of the contact area; and
5 an interconnected set of common traces extending into each zone.

1 6. (original) An electronic pressure sensitive transducer as in claim
2 5 wherein at least one interconnected set of traces is connected to the electronic
3 elements for processing the transducer electrical signal via a through-hole in the
4 printed circuit board.

1 7. (original) An electronic pressure sensitive transducer as in claim
2 6 wherein the through-hole is within the contact area.

1 8. (original) An electronic pressure sensitive transducer as in claim
2 1 wherein conductive traces are arranged in interconnected sets, with at least two sets
3 of traces interdigitated.

1 9. (original) An electronic pressure sensitive transducer as in claim
2 1 wherein conductive traces comprise copper traces covered with an oxidation
3 preventing conductive material.

1 10. (original) An electronic pressure sensitive transducer as in claim
2 1 wherein conductive traces comprise screen printed carbon ink.

1 11. (withdrawn) A method of forming an electronic pressure sensitive

2 transducer, the method comprising:
3
4

5 forming a plurality of conductive traces on the printed circuit board to
6 form a contact area;
7 depositing at least one resistive layer on an inner side of a flexible
8 substrate; and
9 assembling the flexible substrate on the printed circuit board such that
10 the flexible substrate resistive layer is facing the printed circuit board conductive
11 traces, the flexible substrate held to the printed circuit board by an adhesive
12 substantially surrounding at least a portion of the contact area.

1 12. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 wherein at least one resistive layer
3 comprises resistive ink.

1 13. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 wherein assembling comprises
3 screen printing the adhesive on at least one of the flexible substrate and the printed
4 circuit board.

1 14. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 further comprising forming a
3 pedestal on the printed circuit board substantially around the contact area, the adhesive
4 contacting the pedestal when assembled.

1 15. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 14 wherein forming a pedestal
3 comprises forming traces on the printed circuit board in the shape of the pedestal and
4 covering the pedestal traces with an adhesive layer.

1 16. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 15 wherein the traces forming the
3 pedestal are supplied with a conductive material.

1 17. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 wherein the plurality of
3 conductive traces are formed as a plurality of sets of zonal traces, each set of zonal
4 traces interconnected within a zone of the contact area, and as an interconnected set
5 of common traces extending into each zone.

1 18. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 wherein the plurality of
3 conductive traces are formed in interconnected sets, with at least two sets of
4 interconnected traces interdigitated within the contact area.

1 19. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 wherein forming a plurality of
3 conductive traces comprises depositing an oxidation preventing conductive material
4 over copper traces.

1 20. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board as in claim 11 wherein forming a plurality of
3 conductive traces comprises screen printing a carbon ink.

1 21. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly comprising:

3 a printed circuit board accepting a plurality of electronic elements for
4 processing pressure transducer electrical signals;

5 a plurality of conductive traces formed on the printed circuit board to
6 define a contact area;

9 an adhesive spacer substantially surrounding the contact area, the

10 adhesive spacer being formed of a thermally conductive material.

11 at least one resistive layer comprising a resistive ink deposited on the
12 flexible substrate inner surface, the resistive layer contacting at least two of the contact
13 area conductive traces in response to pressure applied to the flexible substrate.

1 22. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 21 further comprising a pedestal formed on the
3 printed circuit board, the pedestal substantially surrounding the contact area, the
4 pedestal receiving the adhesive spacer.

1 23. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 22 wherein the pedestal comprises a conductive
3 material coated with a non-conductive material, the conductive material formed on the
4 printed circuit board.

1 24. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 21 wherein the plurality of conductive traces
3 comprise:

4 a plurality of sets of traces, each set of traces interconnected within a
5 zone of the contact area; and

6 an interconnected set of common traces extending into each zone.

1 25. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 24 wherein at least one interconnected set of traces
3 is connected to the electronic elements for processing the transducer electrical signal
4 via a through-hole in the printed circuit board.

1 26. (original) A printed circuit board electronic pressure sensitive transducer assembly

1 27. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 21 wherein conductive traces are arranged in
3 interconnected sets, with at least two sets of traces interdigitated.

1 28. (original) An electronic pressure sensitive transducer as in claim
2 21 wherein the adhesive spacer comprises adhesive ink.

1 29. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 21 wherein conductive traces comprise copper traces
3 covered with an oxidation preventing conductive material.

1 30. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 21 wherein conductive traces comprise screen printed
3 carbon ink.

1 31. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly comprising:
3 a printed circuit board accepting a plurality of electronic elements for
4 processing pressure transducer electrical signals;
5 a plurality of conductive traces formed on the printed circuit board to
6 define a contact area;
7 a pedestal substantially surrounding the contact area, the pedestal
8 forming a flat area higher than the conductive traces;
9 a flexible substrate having an inner surface positioned over the contact
10 area;
11 an adhesive spacer substantially surrounding the contact area, the
12 adhesive spacer attaching the flexible substrate to the pedestal.

13 The assembly of claim 31 wherein the flexible substrate is a piezoelectric material
14 that produces an electrical signal in response to pressure applied to the flexible substrate.
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1 32. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 31 wherein the pedestal is formed by depositing a
3 non-conductive layer over a conductive layer, the conductive layer formed on the
4 printed circuit board.

1 33. (original) An electronic pressure sensitive transducer as in claim
2 31 wherein at least one resistive layer comprises resistive ink.

1 34. (original) An electronic pressure sensitive transducer as in claim
2 31 wherein the adhesive spacer comprises adhesive ink.

1 35. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 31 wherein the plurality of conductive traces
3 comprise:

4 a plurality of sets of traces, each set of traces interconnected within a
5 zone of the contact area; and

6 an interconnected set of common traces extending into each zone.

1 36. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 35 wherein at least one interconnected set of traces
3 is connected to the electronic elements for processing the transducer electrical signal
4 via a through-hole in the printed circuit board.

1 37. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 36 wherein the through-hole is within the contact
3 area.

3 interconnected sets, with at least two sets of traces interdigitated.

1 39. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 31 wherein conductive traces comprise copper traces
3 coated with an oxidation preventing conductive material.

1 40. (original) A printed circuit board electronic pressure sensitive
2 transducer assembly as in claim 31 wherein conductive traces comprise screen printed
3 carbon ink.

1 41. (withdrawn) A method of forming a printed circuit board
2 electronic pressure sensitive transducer assembly comprising:
3 forming on the printed circuit board a plurality of conductive traces to
4 form a contact area;
5 forming on the printed circuit board a plurality of conductive traces
6 connecting the contact area with conductive pads for receiving electronic elements,
7 the electronic elements processing pressure transducer signals;
8 soldering the electronic elements to the printed circuit board conductive
9 pads;
10 printing a resistive layer on a flexible substrate;
11 printing an adhesive layer over a portion of the resistive layer; and
12 assembling the flexible substrate on the printed circuit board by
13 contacting the adhesive with the printed circuit board such that the resistive layer faces
14 the contact area.

1 42. (withdrawn) A method of forming a printed circuit board
2 electronic pressure sensitive transducer assembly as in claim 41 further comprising
3 forming a raised pedestal on the printed circuit board substantially surrounding the

2 electronic pressure sensitive transducer assembly as in claim 42 wherein the pedestal

3 is formed by forming conductive material on the printed circuit board and depositing
4 non-conductive material on the conductive material.

1 44. (withdrawn) A method of forming a printed circuit board
2 electronic pressure sensitive transducer assembly as in claim 43 wherein the traces
3 forming the pedestal are formed in the same process as the traces forming the contact
4 area.

1 45. (withdrawn) A transducer system comprising:
2 a printed circuit board having a plurality of conductive traces, at least
3 two of the traces defining each of a plurality of contact areas, the printed circuit board
4 accepting electronic elements for processing electrical signals produced by a plurality
5 of transducers, each signal indicative of pressure applied to at least one of the
6 transducers;
7 at least one flexible substrate having an inner surface, one flexible
8 substrate inner surface facing each contact area;
9 at least one adhesive spacer substantially surrounding each contact
10 layer, each adhesive spacer attaching at least one flexible substrate to the printed
11 circuit board; and
12 at least one resistive layer deposited on the at least one flexible
13 substrate inner surface, each resistive layer contacting at least two of the traces in
14 response to pressure applied to the at least one flexible substrate to produce the
15 electrical signal indicative of the applied pressure;
16 wherein the plurality of contact areas, the at least one flexible substrate,
17 the at least one adhesive spacer and the at least one resistive layer form the plurality
18 of transducers, each transducer constructed on the printed circuit board.

1 47. (withdrawn) A transducer system as in claim 45 wherein the at
least one adhesive spacer is a single adhesive spacer.

1 48. (withdrawn) A transducer system as in claim 45 further
2 comprising at least one pedestal formed on the printed circuit board substantially
3 around at least one contact areas, the pedestal receiving at least one adhesive spacer.

1 49. (withdrawn) A transducer system as in claim 48 wherein the at
2 least one pedestal is a single pedestal formed substantially around all of the plurality
3 of contact areas.

1 50. (withdrawn) A transducer system as in claim 48 wherein the at
2 least one pedestal comprises conductive traces covered with a non-conductive
3 material.

1 51. (withdrawn) A transducer system as in claim 45 wherein
2 conductive traces defining at least one contact area comprise copper traces covered
3 with an oxidation preventing conductive material.

1 52. (withdrawn) A transducer system as in claim 45 wherein
2 conductive traces defining at least one contact area comprise screen printed carbon
3 ink.

1 53. (withdrawn) A method of forming an electronic pressure sensitive
2 transducer on a printed circuit board supporting electronic elements, the transducer
3 having a flexible substrate with at least one resistive layer on an inner side of the
flexible substrate facing the printed circuit board, the resistive layer substantially

7 pedestal formed substantially around the contact area, the printed circuit board further

- 8 having conductive traces connecting the electronic elements to the contact area, the
9 method comprising:
10 depositing conductive material on the printed circuit board; and
11 selectively removing a portion of the deposited conductive material to
12 define the traces in the contact area, the traces connecting the electronic elements to
13 the contact area, and at least a portion of the pedestal.